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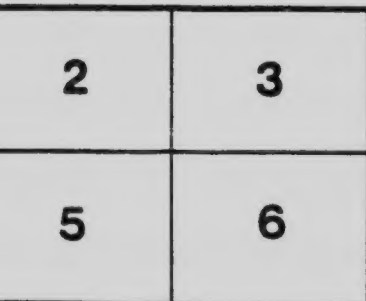
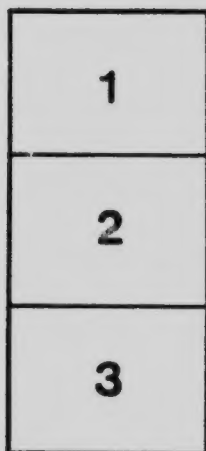
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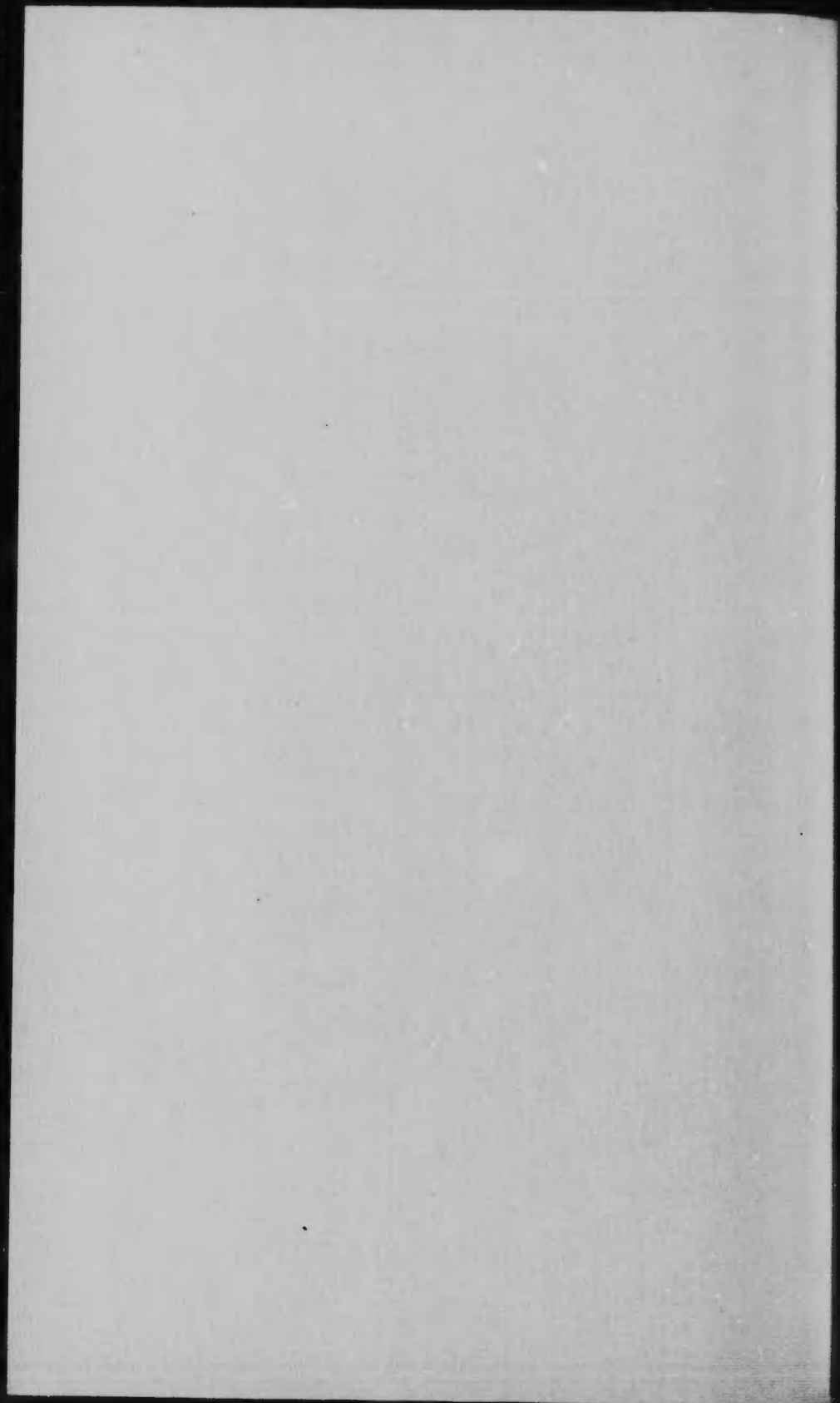
Foetus Holoacardius Acormus in Heterologous (Triplet) Pregnancy

By G. W. PHELAN, M.D.,
*Late Intern, Montreal Maternity Hospital; Late Intern, Royal
Victoria Hospital.*

AND

MAUDE E. ABBOTT, M.D.,
McGill University, Montreal.
(*From the Medical Museum of McGill University.*)
(*Preliminary Report.*)

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G. W. PHELAN, M.D.,

Late Intern, Montreal Maternity Hospital; Late Intern, Royal Victoria Hospital.

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(Preliminary Report).

The term acardiac monster is applied to those cases of uniovular double or triple birth in which the motor force of the circulation of one foetus overpowers that in the other, so that the second becomes what may be termed a placental parasite upon the first. In such cases the heart of the parasitic twin becomes in whole or in part obliterated (holoacardius; hemiacardius), and its blood supply is propelled through its cord by the action of the heart of its fellow. The result is an ill-formed mass, more or less differentiated into trunk, caudal and cephalic ends, and rudimentary extremities.

The development of the head end very rarely predominates. According to Schwalbe, only four well authenticated cases are recorded. To such cases of predominant development of the cephalic end, with or without rudimentary trunk remains, the term *foetus holoacardius acormus* is given. The present communication is a very brief preliminary report of a fifth case of this rare type of monstrosity, in which it is to be noted as a further point of interest that the acormus constituted one member of a heterologous triplet pregnancy. The specimen is illustrated in the accompanying plates (Figs. I and II) with its placenta, from which the cord of its uniovular fellow is seen emerging. A detailed study of this extremely rare and interesting case with full dissections and results of microscopic investigation will be published, by Dr. Phelan elsewhere, at a later date.

* Presented at the Meeting of the American Section, International Association of Medical Museums, Washington, D. C., May 8th, 1916.

CLINICAL HISTORY.

The mother was a Canadian aged 21, single, nulliparous. Has had scarlet fever, personal history otherwise negative. Last period October 10th, 1911. Foetal movements first felt in February, 1912.

First seen on May 16th, 1912, in labor. The abdomen was markedly distended, and a diagnosis of twins in positions L. O. A. and L. S. A. with possible hydramnios was made. The pelvis was normal, temperature, pulse, and respiration also normal.

The pains began at 8 a. m., the first child was born at 2:40 p. m., the second at 2:50 p. m., and the third (the acardiac monster) at 3:00 p. m. The delivery was not complicated. The second child, distinctly larger than the first, was a breech presentation and was extracted without difficulty. After its delivery the fundus was felt to be still very large, and a large mass was palpable, which proved to be the third (acardiac) foetus. It was in a separate amnion which was included within the sac of the first child; and it received its blood supply by a small branch vessel arising from one of the large veins coursing over the placenta, which entered into formation of the cord of the first child. The placenta and membranes were intact.

Careful examination of the placental mass showed that it consisted of two placentae fused along their placental edge about 7 cm., and forming what at first sight appeared to be a single large placenta. There were two chorions and three distinct amnions. The amnion and chorion from those of the first, this foetus and the placenta to which it was attached are not shown in the illustration. This amniotic sac contained a great amount of fluid. The fact that the third foetus (the monster) received its nourishment from the blood supply of the first through its own very short rudimentary cord, probably explains why the first child was much smaller than the second, the conclusion being that the first and third foetuses were derived from a single ovum, while the second foetus was derived from a second ovum, the whole constituting a heterologous triplet pregnancy.

The patient became mentally deranged after the delivery, but her mental condition cleared up before her discharge on May 26th, 1912.

Details of the *three foetuses* may be thus summarized:

1. *First born.* A small but vigorous male child, weighing 1470 gms., 40 cm. in length, vertex presentation, which lived nine days, dying on May 25th.



FIG. 1. Anterior view of acornus with foetal surface of placenta showing attachment of its cord to a large vein. Lip ring is plainly shown and the protruding tongue, also the sac-like structure attached to this posterior surface. From Specimen 5920, Medical Museum, McGill University, presented by Dr. G. W. Phelan.

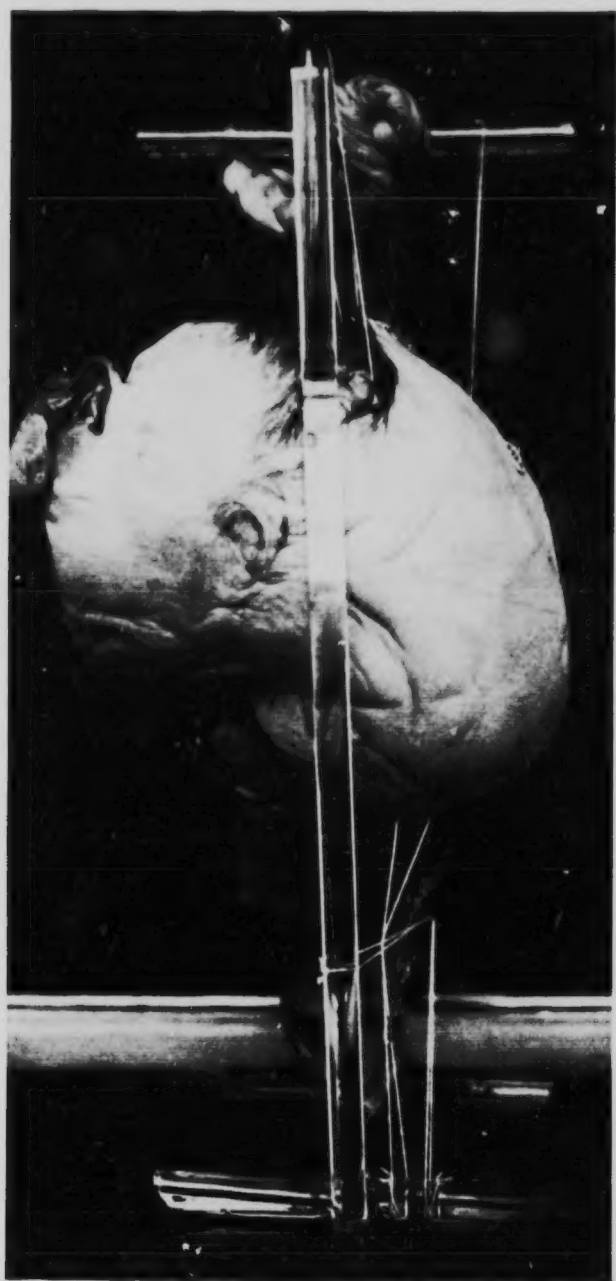


FIG. 2. Lateral view of acornus showing cowl of hair, protruding tongue, and cleft in lip ring. A portion of the gum is also plainly seen between the lip ring and the tongue.



FIG. 3. Skiagraph of acornus showing whorl-like arrangement of teeth, suspected temporal bone and undifferentiated cranial or skeletal mass posteriorly.

From skiagraph taken by Dr. A. H. Pirie, Royal Victoria Hospital.



2. *Second child.* Normal well-formed male child, larger than the first, weighing 1780 gms., 43 cm. in length, breech presentation. Still born. Excessive amount of liquor amnii.

3. *Third born.* Foetus holoacardius acornus. A mis-shapen mass, 19 cm. in length, consisting chiefly of the head end.

DESCRIPTION OF SPECIMEN.

The placenta, common to the acardiac monster, and the first child, has been preserved.

The *placenta* presents the picture of a full term placenta, discoid in shape, from which two cords arise. One of these cords is of large size and of quite normal character save that it possesses a velamentous insertion. To it the normal first born child, was attached. The second cord is very small, two inches in length, and consists only of a single small artery of microscopic size and one large dilated vein; it apparently springs from the largest vein of the placenta about 12 cm. from the point where this vein becomes a part of the cord of the first child. On the edge of the placenta opposite to the insertion of this minute cord are seen, upon the uterine surface of the chorion, the remains of the attachment of the second placenta which belonged to the heterologous member of the triplet pregnancy, and which has not been saved.

The acornic monster is a grotesque ovoid object resembling in size and shape an enormous magnified Lima bean, measuring in the hardened museum specimen approximately 12 x 8 x 8 cm. On its cephalic pole a large greatly distorted mouth can be made out, protruding from which is an irregular tongue mass, to the lower edge of which is seen attached a loose sac the size of a large thumb-nail. The buccal cavity is bounded by a sharp angular ring of cartilaginous hardness covered with mucous membrane which represents gums, and which contains large teeth, as revealed by the X-ray and by palpation; this ring is again surrounded by a soft everted circular lip which is covered with epidermis without and by mucous membrane on its buccal side. Both these rings are continuous save at one point on their upper borders where they are sharply cleft resembling in appearance a hare lip, (although other signs of differentiation into the superior or inferior maxillae are not visible even in the X-ray). A distinct resemblance to a face is given by a cowl-like semicircle of reddish brown, slightly curly hair, which surrounds the upper half of the pole at a distance of about 4 cm. from the borders of the buccal cavity. The intervening skin is marked by a linear and a small circular defi-

ciency in the epidermis so spaced as to resemble traces of eye clefts.

The remainder of the monster is covered by apparently normal epidermis.

The miniature cord enters the monstrosity about midway between its poles on its lower surface being received into a deep depression corresponding to the hilus of the bean to which it has been likened. Hanging from the cord at its entrance to the monster can be seen the remains of the torn amnion.

DESCRIPTION OF SKIAGRAPH.

The X-ray plate was kindly made by Dr. A. H. Pirie, who is now in charge of the X-Ray Department of the McGill General Hospital in France. For the following reading of the plate and for the remarkable photograph of it shown in Figure III, we are indebted to Dr. H. H. Cheney, Assistant Röntgenologist to the Royal Victoria Hospital:—

"The skiagraph was taken laterally and singly. In the anterior portion of the mass was found a whorl of incisor teeth, seven in number, attached to a membranous base smaller than the total mass of teeth. Behind this and intimately joined to it is another mass of equal length but slightly smaller in calibre which has the appearance of a temporal bone with the mastoid process included. Behind this is an amorphous mass about two-thirds the length of the parts referred to above. Form cannot be given to this with a single skiagraph but it rather suggests a spiral formation. The dark area in the accompanying photograph in my opinion is not calcareous to any extent but rather membranous and calcification is at its very earliest stage."

The writers' thanks are also due to Mr. H. H. Wootton, of the Royal Victoria Hospital, for the taking of the photographs.

